

AN UNKNOWN PLANET ORBITS IN THE OUTER SOLAR SYSTEM

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A theory is hereby proposed that an unknown mega-massive planet has, for billions of years, been orbiting at 77.2 AU [astronomical units] from the Sun—within a 44-AU-wide, virtually empty Great Void that surrounds the Kuiper belt (1 AU = 93 million miles, the mean Earth–Sun distance). The Void is postulated to have been formed by the strong gravitational attraction of the unknown planet having removed all CKBOs (classical Kuiper belt objects) that had existed previously in the vicinity of the massive planet's huge orbit.

The Kuiper belt is a doughnut-shaped, 10-AU-wide region surrounding the regular planets that contains possibly trillions of small CKBOs, with some larger than Pluto. CKBOs, which make up approximately 70 per cent of the known KBOs (Kuiper belt objects), orbit the Sun in nearly circular paths that are typically within the ecliptic, the general plane of the solar system. KBOs are primordial planetesimals that had not coalesced to form planets billions of years ago.

Some CKBOs, known as RKBOs (resonant Kuiper belt objects), have been pulled by Neptune's gravity into orbits which resonate with that planet's 165-year orbital period. These comprise about 20 per cent of all KBOs. The SKBOs (scattered Kuiper belt objects) are CKBOs that have been perturbed into highly eccentric, extremely inclined orbits, and they make up roughly 10 per cent of the KBOs within the belt.

A small number of SKBOs apparently are the only objects that remain within the Great Void surrounding the Kuiper belt. They may have been near aphelion and far away enough to have avoided being captured whenever the unknown planet had orbited into a suitable position to acquire them.

No CKBOs are present beyond 50 AU from the Sun. This evidently is the outer edge of the Kuiper belt, which extends

some 10 AU from Pluto's 39.5 AU mean distance—to the belt-end's 50-AU distance from the Sun. Pluto's mean orbital distance appears to separate the closer-in eight regular planets from most of the myriad farther-out KBOs.

Pluto may be either a KBO or an anomalous, presently inexplicable ninth regular planet. Except for a small number of SKBOs, nothing has been found in the Great Void. The Void extends about 44 AU—from the 50-AU end of the Kuiper belt to the 94-AU end of the solar system. The unknown planet is theorised to be orbiting at 77.2 AU, virtually halfway across the Void.

It is postulated as having had sufficient mass, time and gravitational effect during the aeons it has been in orbit to have removed the CKBOs that previously had existed there ever since the solar system first formed. Some scientists postulate a "passing star" to have provided the gravitational influence needed to take out the many CKBOs that had formerly occupied the Void, but a passing star would only have had a single pass and insufficient time during a relatively short period to eliminate all the missing CKBOs.

The 94-AU solar system end, which also is the outer edge of the Great Void, was detected by NASA's *Voyager 1* space probe in December 2004 when it reached the heliosheath, a transitional zone between the solar system and outer space. A sudden increase in magnetic intensity (due to solar wind deceleration) indicated

that *Voyager 1* had left the solar system and had entered the heliosheath, where the solar wind was expected to encounter resistance.

The 77.2-AU distance from the Sun to the proposed unknown planet is derived from a formula and numerical progression conceived by Johann Titius in 1766 and first published by Johann Bode in 1772—after which it became known as Bode's law. It uses a peculiar formula to derive an enigmatic numerical progression that generally matches the AU distances from the Sun of most solar system entities.

The positions of all six planets known in 1766 (Mercury, Venus, Earth, Mars, Jupiter and Saturn) were consistent with Bode's law, but the formula was largely ignored because it included a planetary space between Mars and Jupiter where no planet existed.



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However, when Sir William Herschel serendipitously located Uranus in 1781 (the first new planet to be discovered in recorded history), it was observed to be close to where Bode's law would have positioned a planet beyond Saturn. Interestingly, Bode also had proposed the name Uranus, which was adopted for Herschel's new planet.

In 1801, Giuseppe Piazzi and others began discovering objects in the asteroid belt and found them to be located between Mars and Jupiter, almost precisely where Bode's law predicted a missing planet. Nonetheless, most astronomers now dismiss Bode's law as a fortuitous coincidence because the total combined mass of all asteroids is too small ever to have been a planet—and because Bode's law has no correlation with Neptune's location.

However, the lack of mass in the asteroid belt may be due to a former terrestrial planet orbiting between Mars and Jupiter having suffered a shattering collision aeons ago—with many of the exploded, irregularly shaped, multi-sized fragments having been distributed throughout its orbit, and with many more fragments having ended up on other planets or in the Sun or in outer space. Also, metallic and "stony" meteorites that were perturbed out of the asteroid belt and which landed on Earth have compositions

that are analogous to our silicate crust and mantle and to our nickel-iron core.

Also, Neptune's not matching any Bode's law projected position could be due to that planet having shifted its original orbit from a different position to its

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present one, as is theorised by many astronomers.

Pluto, discovered in 1930 by Clyde Tombaugh, was found to be approximately at the mean AU distance where Bode's law indicated a planet beyond Uranus.

In addition, the unknown massive planet projected to exist in the Great Void correlates fairly well with the 77.2-AU distance that Bode's law proposes for a planet beyond Pluto.

Bode's Law Formula

The puzzling Bode's law formula and its

numerical progression are: n (the Bode law's progression number) plus four divided by 10, where n equals zero for planet no. 1 (Mercury), three for planet no. 2 (Venus), six for planet no. 3 (Earth), and so on, with n continuing to double its value for each successive planet thereafter. Although the Bode's law projection for a trans-Uranian planet does not match Neptune's position, it does correlate broadly with Pluto's mean distance from the Sun. Bode's n value for a planet beyond Uranus is 384 (which is Pluto's n value). Bode's n value for a planet beyond Pluto is 768 (which is the unknown planet's n value). Therefore, 768 plus four divided by 10 equals 77.2—which is the Bode's law projected AU distance for a trans-Plutonian planet.

To best clear the CKBOs out of the 44-AU-wide Great Void, the massive unknown planet should be moving in an orbit approximately halfway across the Void—close to 22 AU beyond the 50-AU end of the Kuiper belt. This would place its mean distance from the Sun at 72 AU—slightly more than one-half an AU different from the Bode's law projection.

The table below compares the Bode's law predicted AU distances with the actual AU distances of the solar system bodies. The correlation is apparent and remarkable.

Why Bode's law works may involve the spacing sequences undergone by the Kant–Laplace nebular rings when they first formed 4.6 billion years ago. Neither Titius nor Bode ever explained how the strange numerical progression was derived. Titius may just have kept trying different sequences until he fortuitously found one that best matched the positions of the planets then known.

The existence of the new unknown planet (which I have named Muriel), cannot be proved until it is located and verified by astronomers. I have given the name Bode to the planet that formerly orbited between Mars and Jupiter until it exploded billions of years ago and broke up into asteroid belt fragments.

[Source: Great Neck Record, Long Island, New York, online edition, 13 April 2007, <http://tinyurl.com/365ymf>. Julian Kane is an Earth scientist and retired professor at Hofstra University, New York, USA; he can be contacted by email at juliankane@optonline.net.]

(a) PN*	(b) Planet or Planetary Objects	(c) Bode's n Value, Formula and Progression	(d) Bode's AU Distance	(e) Actual (Mean) AU Distance
1	Mercury	$0+4/10$	0.4	0.39
2	Venus	$3+4/10$	0.7	0.72
3	Earth	$6+4/10$	1.0	1.0
4	Mars	$12+4/10$	1.6	1.52
5	Asteroid belt	$24+4/10$	2.8	2.8**
6	Jupiter	$48+4/10$	5.2	5.2
7	Saturn	$96+4/10$	10.0	9.54
8	Uranus	$192+4/10$	19.6	19.18
9	Neptune	(no Bode's law) correlation		30.06
10	Pluto	$384+4/10$ ***	38.8	39.44
11	Unknown planet	$768+4/10$ ****	77.2	?

* Position number.
 ** Approximate mean actual distance of asteroid belt objects.
 *** Pluto's n value (384) is double that of Uranus (192), since Neptune's distance has no Bode equivalent.
 **** Unknown Planet Muriel's n value (768) is double that of Pluto's (384).

<http://www.antonnews.com/greatneckrecord/2007/04/13/opinion/environmentalrecord.html>

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PROJECT ALPHA

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Today a reader, Travis, asked me about *Project Alpha*, the famous episode from the early 1980s in which supersceptic James Randi arranged for two young magicians to infiltrate a parapsychology lab in order to confound the researchers.

Over the years, this strange incident has assumed almost legendary proportions in the minds of some sceptics and reporters, who claim that the researchers were totally fooled.

Here, for instance, is the way the story was told in *Las Vegas Style* magazine [date not given; Ed.], with my comments and corrections in brackets and in bold font.

"By 1979, Banachek [one of the magicians in question, whose real name is Steve Shaw] was starting to draw national attention as a gifted performer in extrasensory perception crafts. That was also the year that McDonnell Douglas Aircraft awarded a \$500,000 grant to Washington University in St Louis for the establishment of the McDonnell Laboratory for Psychical Research. [Incorrect: the grant was not bestowed by the corporation but by James S. McDonnell as a private gift.] The lab was supposed to come up with evidence that things like bending a fork with your thoughts was a real thing. If the idea of spending half a million clams on fork-bending seems just a little soft in the head, you're not alone. James Randi was an internationally known magician and an active investigator of paranormal claims when McDonnell Douglas [*sic*] made the grant. He decided to send two young illusionists into the McLab to debunk it. Banachek was one of the illusionists.

"For three years [he] was subjected to every test the pros could come up with to prove he had authentic psychic powers. He bent things, burned things, moved things and knew things. He passed every test with flying colors [false: see Michael Thalbourne's article; link below] and at the end of the three-year period the McDonnell Laboratory for Psychical Research proudly announced to the scientific community that they had the real thing in the form of Banachek.

[False: no such announcement was made.] *OMNI* magazine did a spread on Banachek. *Discover* magazine said 'his demonstrations were just phenomenal'. Even the *National Enquirer* called him a '...Prodigy. Nobody like him in his field.'

"Mid bow for the McDonnell folks James Randi drops his bomb that Banachek had been working for him for the past three years and, what's more, everything he did was an illusion. Remember? Illusions are ideas creating misleading appearances. And mislead

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Banachek did. You know you have a major coup in your pocket when you sting the *National Enquirer*. [Really?] The guys at the Laboratory for Psychical [Research] were crushed." [False: they had already suspected Shaw and his partner of fraud, and had dismissed them both more than a year earlier.]

I guess *Las Vegas Style* subscribes to the motto, "Print the legend". The actual facts behind this case are thoroughly presented in a paper I found online in PDF (Adobe) form: "Science Versus Showmanship: A History of the Randi Hoax", by Michael A. Thalbourne. Originally I had thought of summarising this article, but there's no need to do so because it speaks for itself. Thalbourne,

who was a participant in some of the events, writes in a straightforward, engaging style and lays out the key facts and timeline in the clearest possible way.

The case is also covered, in less detail, by John Beloff in *Parapsychology: A Concise History* [St Martin's Press, 1993].

As both Beloff's and Thalbourne's accounts make clear, there is much less to *Project Alpha* than its cheerleaders would have us believe. Regardless of what the *National Enquirer* may have said, the researchers never publicly committed themselves to the view that the phenomena they observed were genuine. They remained properly cautious in their published remarks. Indeed, they privately came to the conclusion that the two test subjects were not worth studying any further, and politely terminated the experiments. Even so, Randi had the chutzpah to hold a press conference, claiming that the lab had been successfully duped—a story that is repeated to this day.

To nail down this point, I direct your attention to the appendix that follows the bibliography in Thalbourne's paper, where the published conclusions of the researchers are reproduced. This document is dated September 1, 1981, more than one year before Randi's January 1983 press conference exposing the hoax. Regarding the test subject Mike Edwards (Shaw's partner in trickery), the researchers write:

"The outcome of this research is suggestive of psychokinesis but inconclusive, due to its exploratory nature... However, ordinary explanations exist for these effects, given the conditions under which they have been observed. Thus, although several events of interest have transpired, we do not claim that evidence conclusive of 'psychic ability' has yet been demonstrated in our research [emphasis added]."

[Source: Michael Prescott's Blog, 21 March 2007, http://michaelprescott.typepad.com/michael_prescotts_blog/2007/03/project_alpha.html; for Michael Thalbourne's paper, see http://www.ai princ.org/para-c05_Thalbourne_1995.pdf; the Las Vegas Style article is posted at www.banachek.org/nonflash/Articles/las_vegas_style_magazine.htm.]